

Gravatt, Dan

From: Gravatt, Dan
Sent: Tuesday, January 28, 2014 10:34 AM
To: 'HarveyFerdman@aol.com'
Cc: 'Garoutte, Jonathan'; 'branden.doster@dnr.mo.gov'; 'Zlatic, Mike'; 'WestLakeCAG@gmail.com'; 'jim.farnsworth@ago.mo.gov'
Subject: Reply to your January 13th e-mail to Karl Brooks on West Lake Landfill

Dear Mr. Ferdman:

We received your e-mail message of January 13th to Karl Brooks that posed several questions about the installation of PVC casings in the bore holes during the Phase 2 coring work for the isolation barrier investigation. For some of the issues you raised, we consulted with EPA's Office of Research and Development (ORD) to provide a comprehensive response.

Soil Boring WL-110

With respect to Item 1 in your e-mail regarding a "Boring showing elevated sub-surface temperature in Area 1", please note that the boring you reference, WL-110, is not located in Operable Unit 1, Area 1 or any portion of Operable Unit 1. One of the purposes of the 1996 Soil Boring / Surface Sample Investigation Report for West Lake Landfill Radiological Areas 1 and 2, where you found the boring temperature information you sent, was to define the extents of the various landfill cells at the site, and at that time the boundaries between the cells were not well defined. The perimeters of the OU-1 landfill cells were refined with the information from this report and the 2000 Remedial Investigation report for OU-1. As you can see from Figure 2 from the Core Sampling (Phase 1B, 1C and 2) Work Plan, which is available to the public on EPA's West Lake Landfill webpage at http://www.epa.gov/region07/cleanup/west_lake_landfill/index.htm, boring WL-110 is well within the North Quarry Landfill cell of the Bridgeton Sanitary Landfill.

It is also important to note that the boring temperature information you sent was taken from native alluvium material, which is not landfill waste. The act of drilling a bore hole through subsurface materials can generate varying amounts of heat, depending on the material being drilled through and the rate that the drilling proceeds. Therefore, the information you provided does not suggest a subsurface smoldering event in the area of boring WL-110. Recall that other lines of evidence for the subsurface smoldering event in the South Quarry Landfill included changes in landfill gas composition and subsidence of the surface of the landfill; to the best of EPA's knowledge, neither of these changes have been observed in OU-1, Area 1 or in the vicinity of boring WL-110 within the North Quarry Landfill.

Maintenance Issues and use of Steel Casing

With respect to Item 2 of your e-mail regarding the cautions from a "...recognized landfill expert who has been consulting on the SSE in the Bridgeton Landfill...", please note that steel casings cannot be used in these borings. The purpose of inserting casings into these borings is to allow future gamma logging of the wells, and steel would block at least some of the gamma emissions and render such measurements impossible. The other points raised in this item are relevant and EPA has considered them. EPA's landfill experts, from ORD, determined that the proposed method for installing the PVC casings will prevent both oxygen infiltration into the subsurface and landfill gas escape from the borehole since they will be capped at both ends and sealed into place. Regardless of the presence of PVC casings in the bore holes, it is important to note that since the OU-1 cells are not capped, oxygen infiltration into the waste mass through the surface of these cells is not controlled at this time. In addition, the current plan is to remove the PVC casing and grout the full length of each bore hole once the relevant information is obtained. However, there may be a limited number of casings left in place as field conditions warrant.

Petroleum Soaked Soil

0714

40438504

7.0



Superfund

0001

Item 3 of your e-mail asks "In the presence of petroleum soaked soil, can this start an SSE during the construction of the Isolation Barrier?" As stated above, the proposed method for installing PVC casings will prevent oxygen infiltration into the subsurface, but oxygen infiltration into the waste mass through the surface of OU-1 Area 1 is not controlled at this time. The waste characteristics you reference in your e-mail highlight the fact that since the waste in this landfill is extremely varied, there exists the possibility for a number of different hazards when excavating waste. Proper handling of any waste excavated during construction of the isolation barrier will be described in the design work plan for the barrier construction.

Sincerely,
Daniel R. Gravatt, PG
US EPA Region 7 SUPR/MOKS
11201 Renner Boulevard, Lenexa, KS 66219
Phone (913) 551-7324

Principles and integrity are expensive, but they are among the very few things worth having.